DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027086
Date Inspected: 18-Jan-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name: See Below

Inspected CWI report:	☐	**Yes**	☑	**No**	☐	**N/A**		
Electrode to specification:	☑	**Yes**	☐	**No**	☐	**N/A**		
Qualified Welders:	☑	**Yes**	☐	**No**	☐	**N/A**		
Approved Drawings:	☑	**Yes**	☐	**No**	☐	**N/A**		

CWI Present:	☑	**Yes**	☐	**No**				
Rod Oven in Use:	☑	**Yes**	☐	**No**	☐	**N/A**		
Weld Procedures Followed:	☑	**Yes**	☐	**No**	☐	**N/A**		
Verified Joint Fit-up:	☑	**Yes**	☐	**No**	☐	**N/A**		
Approved WPS:	☑	**Yes**	☐	**No**	☐	**N/A**		
Delayed / Cancelled:	☐	**Yes**	☑	**No**	☐	**N/A**		

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:

At the start of the shift this Quality Assurance Lead Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) Quality Control (QC) personnel. The observations and inspections were performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned the QA Inspectors to the following, but not limited to the work station(s) listed , to observe the welding and the QC inspection of the following:

Doug Frey-OBG E13(Observation of welding and QC inspection on the lifting lug holes), OBG field splice E12/E13 (Observation of repair welding and QC inspection of side and bottom plate splice identified accordingly as "E1, E2" & "D1").

Ken Riley-OBG W12 (Observation of repair welding and QC inspection of lifting lug holes), OBG Field Splice W12/W13 (Observation of repair welding of bottom plate splice identified as "A2") and submittal reviews.

Skyway-No Work

NOTE: See QA daily Weld Inspection Reports (WIR) and NDE reports for additional information and details.

Quality Assurance Lead Inspector (QALI) Summary

This QA Lead Inspector (QALI) observed the QA Inspector's Douglas Frey and Ken Riley monitor the work

performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift, this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications and no issues was noted on this date. This QALI also verified the following in progress work:

The QA verification of the above items appeared to comply with the contract specifications.

OBG W12, Lifting Lug Holes (Face "A")

The QAI observed the Shielded Metal Arc Welding (SMAW) of the lifting lug hole insert plate identified as Weld Number (WN): 12W-PP114-W4, W3 of the Orthotropic Box Girder (OBG) "A" deck identified as W12. The welder, Mike Jiminez ID # 4671, performed the welding of the Complete Joint Penetration (CJP) groove weld utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-1050A-CU, Rev. 0. The WPS was also utilized by the QC inspector Sal Merino as a reference to monitor the welding and verify the welding parameters which was recorded as 189 amps by the QC inspector. The 4.0 mm Lincoln electrode was utilized with the welding performed in the flat (1G) position with the work placed in an approximately horizontal plane and the weld metal deposited from the upper side. The groove joint appeared to comply with the AWS joint designation identified as B-U4a. The minimum preheat temperature of 20 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius were also monitored by the QC inspector. The welding and QC inspection appeared to comply with the contract specifications.

This QAI also observed the welder, Rick Clayborn ID # 2773, perform the back gouging of the lifting lug hole identified as 12W-PP114-W3, W1 located at the OBG W12. At the conclusion of the back gouging the QC inspector, Sal Merino performed the Magnetic Particle Testing (MPT) which was ground to a bright metal by Mr. Clayborn. At the conclusion of the testing no rejectable indications were noted and Mr. Clayborn commence the welding of the lifting lug hole. The welding was performed utilizing the SMAW process and the 3.2 mm electrode as per the WPS identified as ABF-WPS-D15-1110A, Rev. 1. The WPS was also utilized by the QC inspector Sal Merino as a reference to monitor the welding and verify the welding parameters which was recorded as 129 amps by the QC inspector. The welding was performed in the overhead (4G) position with the work positioned in an approximately horizontal plane and the weld metal deposited from the underside. The surface temperatures, minimum preheat and maximum interpass, appeared to comply with the contract specifications.

FW Spencer/Pipe Welding of Utility Systems

This QALI observed the fit-up and CJP welding of the pipe 2.0" and 1.0" weld-o-lets to the 2.5" and 4" utility service systems. The welding was performed by FW Spencer personnel Damian LLanos, identification # 6645, utilizing the WPS identified as 1-12-1 and this WPS was also utilized as a reference by the QC Inspector, Steve Jensen. The average amperage reading was noted as 87 amps. The work performed on this date was located at the west OBG W1 through W7 along grid line W2 between PP11 and PP28.

The in process welding and the inspection performed by the QC inspector, Mr. Jensen, appeared to comply with the contract specifications.

QA Summary

The QC inspection and welding performed on the lifting lug holes and pipe welding was observed at random intervals by this QA Inspector. The QAI observations included verification of the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. This QAI utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The random observations, verifications of the welding and QC inspection, WPS's, consumables, welding parameters, preheat and interpass temperatures appeared to comply with the contract specifications.

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates).

Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer